

Application No. 10/562,812
Amendment dated December 17, 2008
Reply to Office Action of September 17, 2008

Docket No.: 4991-0106PUS1

AMENDMENTS TO THE DRAWINGS

Please substitute the two (2) attached Replacement Sheets containing amended FIGS. 14 and 14 for the corresponding drawing sheets in the application as filed.

REMARKS

With the entry of this Amendment, claims 1 and 5-11 will be pending in this patent application.

OBJECTION TO DRAWINGS

Applicant is submitting herewith Replacement Sheets with FIGS. 14, amended by adding a "PRIOR ART" label. The replacement sheets are to be substituted for the corresponding drawing sheets in the application as filed. No new matter has been introduced by the amendments to the drawings.

Applicant trusts that the Examiner will find that the amendments to the drawings made herein have obviated the objection to the drawings and requests that the objection be withdrawn.

PRIOR ART REJECTION

Claims 1-11 were rejected under 35 USC § 103(a) as being unpatentable over JP 2002-38159 A (per Examiner, "Nippon Steel"). Applicant traverses this rejection insofar as it might be deemed applicable to claims 1 and 5-11 as now presented.

The Examiner acknowledges that "Nippon Steel does not teach that the lance includes oscillating means." The Examiner also states, "the lance can ascend and descends and the lance for replacing can be inclined, and tilted in order to fully repair all areas of the coke oven," adding that, "the lance is not oscillated per se but the lance as constructed and arranged in conjunction with the guide post and boarding ramp taught in Nippon Steel is fully capable of performing the same tasks as claimed by Applicant."

As disclosed in paragraph [0010] and illustrated in drawing figure 1 of Nippon Steel, "freely tiltable tilting stand 25 with the guide for lift 17 supported by the oil hydraulic cylinder etc is laid on this stand 23." However, the disclosed purpose of the tilting function is *not* for tilting the lance *while the lance is in the coke oven*. See, for example, paragraph [0020] of Nippon Steel: "When observing by moving the traveling base vehicle 13, the liftable guide 17 of the water-cooled lance 16 and the water-cooled lance 15 can be made to be able to tilt by operation of the tilting stand 25, and the obstacle on the furnace of the coke oven 11 can be avoided easily."

Claims 2-4 have been canceled, claim 1 has been amended by adding the subject matter recited in the canceled claims, and claims 5-7 and 9 have been amended to depend from claim 1. Claim 1 has been further amended to recite a control device and a positioning of the lance effected by the control device; support for this amendment can be found in the specification on page 27, lines 15-20.

As noted above, the lance in the Nippon Steel apparatus tilts to avoid an obstacle on the surface of the coke oven. On the other hand, in Applicant's disclosed and claimed coke-oven repairing apparatus, the lance is tilted *in the coke-oven carbonizing chamber*. Therefore, the functions performed by Applicant's invention and the Nippon Steel apparatus are significantly different. Also, according to paragraph [0019] of Nippon Steel, "As the diameter of a flue hole is as small as 100-120 mm and to insert the water-cooled lance 16 inclination of the lance 16 should be reduced when the lance 16 moves up and down by adjusting the position of the lance 16 so as to maintain water-cooled lance 16 vertical." That is, Nippon Steel explicitly teaches that tilting of the lance is to be inhibited in the coke oven. Furthermore, if the lance 15 of the observation repairing/device 10 shown in figure 1 of Nippon Steel were inclined, even at a slight angle, the lance 15 would make contact with the wall surrounding a charging hole of the coke oven. A distinct advantage of Applicant's disclosed and claimed apparatus is that the lance can tilt through a wide range *in the coke oven*, even though the diameter of the charging hole is small. This enhanced function is made possible by the setting of the fulcrum of the lance at the center of the charging-hole and at the depthwise center of the charging hole, along with an interlock of "driving of the extendable device and a driving of the traversing carriage for maximizing the oscillating angle of the lance inserted in the carbonizing chamber, within a range which prevents the lance from contacting with the charging hole," as recited in Applicant's amended claim 1. There is not the slightest disclosure or suggestion in Nippon Steel of this function, which is clearly recited in Applicant's amended claim 1.

In view of the foregoing observations, Applicant submits that the disclosure in Nippon Steel cannot properly serve as a basis for rejecting claims 1 and 5-11, as now presented, under 35 USC § 103(a).

OTHER PRIOR ART

Applicant has considered the other prior art cited by the Examiner. Applicant is not commenting on this prior art, because it was not applied against the claims in this application.

CONCLUSION

In view of the amendments, observations and arguments presented herein, Applicant respectfully requests that the Examiner reconsider and withdraw the objection and the rejection stated in the outstanding Office Action and recognize all of the pending claims as allowable.

If unresolved matters remain in this application, the Examiner is invited to contact Frederick R. Handren, Reg. No. 32,874, at the telephone number provided below, so that these matters can be addressed and resolved expeditiously.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

Andrew D. Meikle

Registration No.: 32,868

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant

Attachments: Replacement Sheets (2, FIGS. 14 & 15)